

Provenance, Purity & Price Premiums: Consumer Valuations of Organic & Place-of-Origin Food Labelling

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Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any tertiary institution, and to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

John Paull

November 2006

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John Paull

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Abstract

China is now the world's largest food producer for many food categories, and has recently embarked on a major conversion to organic agriculture. Australian farmers have described their industry as in crisis due to increasing competition from imports; they have called for strengthening of country of origin labelling on food. Priestley (2005) noted the absence of data on the premium Australian consumers will pay, if any, for Australian food produce. Halpin (2004) has reported that the current premiums on organic food are well beyond what Australian consumers are likely to be willing to pay, and that this will probably inhibit the growth of the industry in Australia. Vogl, Kilcher & Schmidt (2005) declare that consumers expect organic produce to be labelled with a regional identity. The present study set out to establish the values consumers place on organic, on provenance, and on faux-organic claims (Type II eco-labels), and to determine the interactions between these factors.

Australian consumers (N=221) were surveyed online. *Organic* was valued at an 8.12% premium, and *Certified Organic* was valued at a 15.63% premium. The provenance *Australia* was valued at a 25.98% premium over *China*, and *Tasmania* was valued at a 31.59% premium over *China*. Both *Natural* and *Eco* added value, 2.48% and 2.84% respectively.

Certified Organic attracted a lower premium when coupled with *China* (11.62%). This Organic x Provenance interaction was consistent with respondents declaring they lacked trust in Chinese labelling. Interaction effects for eight demographic variables, including age, education, and place of residence, are reported. Gender and income do not have a significant influence on consumer values.

This study found that adjunctive labelling offers both Australian and Chinese producers the opportunity to add value to their produce. It found that Australian producers would be beneficiaries from implementation of the Fair Dinkum Food Campaign's call for Country of Origin Labelling (CoOL), which is currently lacking on processed food. It establishes that organic is a path for both Australian and Chinese producers to add value. It suggests that China's push into organic production has the potential to lead the world to an organic future, and continuing on this path may give China the opportunity to redefine the standard for internationally traded food as *Certified Organic*.

A Note on Terminology

Organic:

Organic is used as the name of a treatment variable in this study. The Organic treatment variable is tested at three levels: *null*, *Organic* and *Certified Organic*. Where these terms are used in the text to describe a variable level, or within a treatment combination, they are presented in italics, as per the usage in this paragraph.

Eco:

Eco is used as the name of a treatment variable in this study. The Eco treatment variable is tested at three levels: *null*, *Natural*, *Eco*. Where these terms are used in the text to describe a variable level, or within a treatment combination, they are presented in italics, as per the usage in this paragraph.

Eco-labelling:

Eco-labelling is a term used in the literature, and particularly by ISO (International Standards Organisation), to refer to an environmental claim on a product. Where Eco-labelling is used in this document, it is used in conformity with the ISO usage. In ISO usage, four of the treatment levels used in this study, namely *Certified Organic*, *Organic*, *Natural* and *Eco* are eco-labels. ISO distinguishes Type I and Type II eco-labels, the former are claims certified by a third party, and hence *Certified Organic* is an ISO Type I eco-label. ISO Type II eco-labels refer to claims that are self-proclaimed. Hence, three of the treatment levels in this study conform to this ISO description: *Organic*, *Natural* and *Eco*.

Provenance:

Provenance is the name of a treatment variable in this study. The Provenance variable is tested at three levels: *China*, *Australia*, *Tasmania*. Where these terms are used in the text to describe a variable level, or within a treatment combination, they are presented in italics, as per the usage in this paragraph. “Australia” and “Tasmania” are also used as levels of the demographic variable: “Place of Residence”; in this usage they are not italicized. Where there is scope for confusion, levels of the Residence demographic variable, are preceded by “Res:” or “Residence:”, as in, for example, “Res: Tas”, “Res: Tasmania” and “Residence: Tasmania”; where there is scope for confusion, levels of the Provenance variable may likewise be preceded by “Provenance:” as in “Provenance: *Tasmania*”. The intent is to keep the use of these qualifiers to a bare minimum.

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Executive Summary of Results and Conclusions

The following is a summary of results and conclusions from the *Provenance, Purity and Price Premiums: Consumer Valuations of Organic and Place-of-Origin Food Labelling* study. The introduction to this study is presented in Chapter 1, background briefing papers are presented in Chapter 2, the methodology is described in Chapter 3, the results in Chapter 4, and the discussion and conclusions in Chapter 5.

1. Halpin (2004) reported that certified organic premiums averaged 80% in Australia, and proposed that most consumers are likely to consider this figure too high. This study confirmed Halpin's hypothesis, finding that Australian consumers valued *Certified Organic* at a premium of 15.63% (Figure 4.3).
2. Priestley (2005), in response to the Fair Dinkum Food Campaign and its call for Country of Origin Labelling, reported the absence of a study reporting the existence of a consumer willingness to pay a premium for Australian produce. The present study found that Australian consumers value *Australia* at a premium of 25.98%, compared to *China*, and *Tasmania* at a premium of 31.59%, compared to *China* (Figure 4.4). This confirms the underlying premise of the Fair Dinkum Food Campaign that Australian produced food has a premium value for Australian consumers, and confirms that the FSANZ lack of Country of Origin Labelling for processed food disadvantages Australian producers.
3. The suggestions of Daboh (2004), Leu (2006a) and Wong (2006) that Eco-labels, *Natural* and *Eco*, are threats to the organic industry are not borne out by this study. *Natural* attracted a premium of 2.48% and *Eco* attracted a premium of 2.84% (Figure 4.5). (This compares to *Organic* attracted a premium of 8.12% and *Certified Organic* a premium of 15.63% (Figure 4.3)).
4. For Australian consumers, *Organic* yielded half of the premium of *Certified Organic* (8.12% versus 15.63%), (Figure 4.7). This confirms the ongoing opportunity for Australian producers in organics. There is a larger opportunity in *Certified Organic* since the premium is higher and it offers export potential. For producers who opt not to certify, there is an opportunity to benefit from a self-claimed organic appellation, and thus avoid the certification costs, the paperwork burden and the third party auditing, while still benefiting from a premium price, albeit a lesser

premium. (This option is not available for Australian or Chinese producers marketing in China, where “organic” is now a controlled term and can only be applied there to *Certified Organic*).

5. All three treatment variables (Organic, Provenance and Eco), added significant value for Australian consumers (Figure 4.1, Figure 4.2). This confirms the representations by both Pollan (2006), and Singer & Mason (2006), that food narratives are now important elements in food choice for consumers.
6. Notwithstanding that this study reports many interaction effects, the major treatment variable results are very robust, across almost all treatment and demographic conditions. With only rare or no exceptions, (a) *Certified Organic* attracts a premium over *Organic*, and *Organic* over *null*, (b) *Australia* and *Tasmania* both attract a premium over *China*, and (c) *Natural* and *Eco* attract a premium over *null*. The interactions reported here, with few exceptions, are ordinal (rather than disordinal); that is, where there are interactions, they mostly take the role of moderating, weakening, or strengthening an effect, rather than reversing it.
7. *China* suffers a 30% “trust deficit”, with respondents indicating they did not trust Chinese labelling and/or certification. This manifested in *China/Certified Organic* attracting a premium of 11.62% compared to *Australia/Certified Organic* yielding a premium of 16.48%. *Tasmania/Certified Organic* yielded a premium of 17.95% (Figure 4.7).
8. The premiums that *Natural* and *Eco* attract, are reduced by half, when they are coupled with *Certified Organic*. While *Eco* by itself adds 4.12%, when coupled with *Certified Organic*, it adds only 1.9% (Figure 4.9).
9. Adding *Eco* to a *China* label is likely to be about twice as effective as adding *Natural* (yielding a 2.89% premium compared to 1.69%) (Figure 4.11). For the Provenances *Australia* and *Tasmania*, both *Eco* and *Natural* are equally valued.
10. Income and gender have no impact on food valuations based on Organic status, Provenance or Eco (Table 4.9).
11. The Age ≤ 20 group (i.e. 20 years and under) does not value *Organic* or *Certified Organic* (Figure 4.14). The question is, is this “just” an age effect (and they will grow out of it), or is it a

generational effect and that organic appellations are nugatory for them (and they will carry this valuation strategy with them as they age)?

12. The Primary Education group attributes no value to *Organic* or *Certified Organic* (Figure 4.16), even exhibiting a negative trend.
13. The more frequently people purchase organics, the higher the premium they attribute to *Organic* and *Certified Organic* (Figure 4.18).
14. Half of the premium for *Certified Organic* can be attributed to “certified” and half to “organic” (Figure 4.3). However, for people related to the organics industry, this changes to approximately 20% contributed by “organic” and 80% of the premium attributable to “certified” (Figure 4.20).
15. The Age ≤ 20 group discriminates on Provenance less than other age groups (Figure 4.22).
16. The Provenance *Tasmania* (compared to *Australia*), is valued up 9.8% by Tasmanians, up just 1.3% for mainland Australians, and is valued down 5.6% for Overseas residents (Figure 4.24).
17. The Primary Education group values *Australia* over *China*, less than half as much as Secondary and Tertiary Education groups (12.5% compared to 27.3% and 27.7%), and it values down *Tasmania* (Figure 4.26).
18. Main Shoppers are more discriminating on Provenance than Not Main Shoppers, i.e. they attach larger premiums to *Australia* and *Tasmania* (over *China*), (27.8% and 34.5%, compared to 19.7% and 21.6%), (Figure 4.28).
19. The Age 61+ group (i.e. 61 years and older) valued up *Certified Organic/China*, but at half the rate of other groups, (Age 61+ valued up *Certified Organic/China* 6.65%, compared to 14.75% for Age 21-40) (Figure 4.29).
20. The Tertiary Education group values down unadjoined Provenance labels (indicating their preference for more sophisticated labelling) (Figure 4.32).

21. Female/Not Main Shoppers discriminate less on Provenance than other gender x shopper groups; relative to other groups, they value up *China*, and value down *Tasmania* (Figure 4.35).
22. The Male/Never Purchase Organic group values up *Australia* (over *China*) more than other Male x organic shopper groups, and values *Tasmania* equally to *Australia* (Figure 4.37).
23. The Age ≤ 20 /Below Average Income group does not discriminate on Provenance (Figure 4.39).
24. Not Main Shoppers who are mainland Australians, or who report Below Average Income, discriminate on Provenance less than other groups (Figure 4.41).
25. All groups across all demographics value *Australia* over *China*, and *Tasmania* over *China*, and there is a main effect of *Tasmania* > *Australia* (Figure 4.4), nevertheless a variety of demographic groups value Australia over Tasmania (e.g. Figure 4.45)
26. The Primary Education Main shopper group prefers simple labelling and the addition of *Natural* and *Eco* detracts value (Figure 4.47).
27. For almost all groups *Natural* and *Eco* add value, some groups equally, some *Natural* > *Eco* and some *Eco* > *Natural* (Figure 4.49, Figure 4.50).
28. Interactions in this study establish that the value of food based on labelling variables is a complex and multi-factorial process and is a field ripe for further research (Table 4.11, Table 4.12 & Table 4.13)
29. China is already the world's largest producer of many food crops, continues to rapidly expand this sector, has embarked on both a major food export effort, and on a bold programme of converting large areas of production to organic (Figure 2.1). China is now number one in the world for horticultural organically managed land (Figures 2.2), and has the potential to soon be in the position to redefine the standard of internationally traded food as *Certified Organic*, which would severely disadvantage Australian chemically-dependent food producers.
30. China is using organics as a means to (a) address pollution issues of farming practices (b) improve health for farm workers and consumers (c) bring wealth to farmers and (d) ensure access

of Chinese produce to export markets. This study confirms that *Certified Organic* adds value for Australian consumers for food from China. (Figure 4.7).

31. Australian and Tasmanian farmers are lagging the world in conversion to organic (Figure 2.14). As markets are increasingly able and willing to test for pesticide residues, local farmers who persist with the *status quo* are at risk of producing the food equivalent of excellent quality vinyl records in an iPod world. This study identifies *Certified Organic* as the best available opportunity for Australian farmers and producers to add value to their produce.
32. There are already organic cities, towns, villages and precincts in many countries, though not in Australia. To date there is no declared organic island, although several islands are examining this option. In the meantime, there is the opportunity for Tasmania or Australia to achieve “first organic island” status.
33. Adjunctive labelling of food adds significant value for Australian consumers (Figure 4.2), and is an opportunity for Tasmanian and Australian mainland food producers. The value of Tasmanian produced food “once packed and processed” is AU\$2,090 million (Griffiths, 2005, p. 4). With the Certified Organic premium of 15.63%, there is the potential for Tasmania to add AU\$327 million to the value of its production, from conversion to organic systems.
34. The last decade has witnessed the increasing exporting of Australian jobs, firstly manufacturing and secondly service industries, to lower cost countries, particularly China and India. Farming will be the third wave of this offshoring, unless a convincing case for exceptionalism can be mounted, or Australian producers capitalise on the value they can add, rather than the cost they can subtract. Australia may have a world class chemically-dependent food production system, that may be in terminal decline, if chemical-farming and its chemical-food products, are rapidly becoming anachronisms. Organic is an option that Australian farmers might examine, while options remain, and for the same reasons as Chinese farmers are embracing organics. Alternatively, the offshoring of Australian farms and jobs has the potential for environmental dividends, if Australian farms revert to native vegetation, due to being economically non-viable as farms.
35. This study found that the World Wide Web was an excellent, effective and efficient medium for conducting this type of research, offering design, researcher and respondent benefits. This me-

dium enabled the questions to be re-randomised for each respondent, enabled the respondent to truly self-select to opt into or out of the survey, ensured their anonymity (known to improve the reliability and validity of responses), allowed subjects to respond at a time and place of their choosing, and at their own pace, while it offered time and cost savings for the researcher, and enabled continuous monitoring of results and online collation of results (Table 3.2, Figure 3.1).